

KAISER•HILL  
( COMPANY )

August 8, 1995

95-RF-06269

Jessie M. Roberson, Assistant Manager  
Environmental Restoration  
DOE, RFFO

RECOMMENDATION THAT THE DEPARTMENT OF ENERGY, ROCKY FLATS FIELD  
OFFICE (DOE, RFFO) OBTAIN ENVIRONMENTAL PROTECTION AGENCY (EPA)  
APPROVAL FOR TECHNICAL MEMORANDUM NO. 2 AND TECHNICAL MEMORANDUM  
NO. 5 - TGH-219-95

Action Request approval for Technical Memoranda

The enclosed comment responses (Enclosure 1) are provided for DOE, RFFO to respond to the Colorado Department of Public Health and Environment (CDPHE) comments on the Addendum to Technical Memorandum No. 2, Human Health Risk Assessment, Exposure Scenarios, Operable Unit 3, (TM 2) dated April 11, 1995. These comment responses are provided in an effort to gain final approval of this document. The EPA has not provided comments on this document. However, we anticipate that they will approve TM 2 without changes. It is recommended that a letter requesting approval be submitted by DOE, RFFO to facilitate the process.

Additionally, CDPHE provided comments on Technical Memorandum No. 5, Human Health Risk Assessment, Toxicity Assessment, Operable Unit 3, (TM 5) dated October 10, 1994. Subsequent to the submittal of TM 5, the EPA provided clarification for Operable Unit (OU) 5 regarding the use of Toxicity Assessment Technical Memoranda. It is on this basis that Kaiser-Hill is recommending that DOE, RFFO pursue the same ruling for OU 3. Enclosure 2 is suggested content for a letter from DOE, RFFO to the agencies regarding this matter. Enclosure 3 is a copy of the clarification letter dated October 12, 1994, which EPA provided for OU 5 regarding Toxicity Assessment Technical Memorandum.

We recommend that approval be sought for these technical memoranda as soon as possible so that there are no outstanding issues during the review of the Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation report.

If you have any questions or require additional information, please contact Steve Hahn, of my staff, at extension 9888.

T. G. Hedahl, Director  
ER/WM&I Operations

MCS bll

Orig and 1 cc - J. M. Roberson

Enclosures  
As Stated (3)

✓ Buddy - RMRS  
R J Denike - "  
J E Law - "

A M Parker - RMRS  
R S Roberts - "  
RMRS Records

-ER Records

ADMIN

COR

A-0003-000560

Kaiser Hill Company, L.L.C.

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Mailing Address: P.O. Box 464, Golden, Colorado 80402 0464

**RESPONSES TO THE  
COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT  
COMMENTS ON TECHNICAL MEMORANDUM #2  
(HUMAN HEALTH RISK ASSESSMENT EXPOSURE SCENARIOS)  
FOR  
OPERABLE UNIT 3**

**AUGUST 1995**

## Introduction

These detailed responses are provided for the purpose of addressing formal comments from the Colorado Department of Public Health and Environment (CDPHE) regarding the Addendum to Technical Memorandum No. 2, Human Health Risk Assessment, Exposure Scenarios, Operable Unit 3, dated April 11, 1995. CDPHE comments are presented by comment number. U.S. Department of Energy (DOE) responses immediately follow the CDPHE comment.

### CDPHE Comment #1

Updates will need to be made based on the changes to the CDPHE conservative screen specifically, Mower Reservoir and Standley Lake surface and deep sediments. Pending the results of the screen, these sediments may also have to be assessed in the baseline risk assessment for residential exposure.

### DOE Response to Comment #1

Technical Memorandum #4, Human Health Risk Assessment Chemicals of Concern, Operable Unit 3, showed that no Chemicals of Concern (COC) exist for surface sediments at Standley Lake and Mower Reservoir. This technical memorandum has been reviewed and approved for use at Operable Unit 3. In addition, the Responses to Colorado Department of Public Health and Environment Comments on the CDPHE Conservative Screen Letter Report For OU 3 submitted for agency review on June 23, 1995, show that the subsurface sediments at Standley Lake and Mower Reservoir do not represent areas of concern. These responses are currently being reviewed by CDPHE. It is not currently anticipated that subsurface sediments will be included as areas of concern in the baseline risk assessment for residential exposure.

### CDPHE Comment #2

Section 2.0. Some discussion of potential future uses of Mower Reservoir should be included in this section. Also, some discussion of potential hazards to the public of exposure to dried surface sediment at Standley Lake such as occurred this past summer and autumn during periods of low water should be included. This was a concern voiced by several citizen groups and municipal and county groups.

### DOE Response to Comment #2

Since no COCs exist for surface or subsurface sediments at Standley Lake and Mower Reservoir, and no areas of concern were identified through the CDPHE conservative screen, there is no exposure risk to these sediments. This information will be outlined further in the Remedial Investigation Report.

### CDPHE Comment #3

Section 5.0. EPA has revised the equation in Part B RAGS for calculating external irradiation in order to reflect the changes it made in calculating external exposure slope factors listed in Table 4a of HEAST, 1992 and equivalent tables in HEAST from subsequent years. According to the memorandum from Janine Dinan, 1992, "Changes to Equations in the Part B guidance" "The 'old' external slope factors were calculated assuming that individual gamma-emitting radionuclides were uniformly distributed over an infinite surface area with no depth, and were expressed in units of risk/year per pCi/m<sup>2</sup> of soil." Therefore, assumptions had to be made when calculating the risk.

or PRGs for the depth of the radionuclide in soil, D, and the soil density, SD

However, the external slope factors EPA has calculated since HEAST 1992, already account for soil depth and density (and are expressed in correct units of risk/year per pCi/g soil) Therefore, the term D and SD have been dropped from the revised equations in Part B RAGS to calculate risk and PRGs

Thus, the equation listed on page 3 of 4, should not be used in conjunction with post-HEAST 1992 external slope factors to calculate risk This section should be revised according to the most recent guidance (Dinan, 1992)

#### DOE Response to Comment #3

The latest external exposure slope factors from the Health Effects Assessment Summary Tables (HEAST) have been used in calculating risks The units of these external exposure slope factors are in risk/year per pCi/gram soil

#### CDPHE Comment #4

Table A-1 The division does not agree with the way DOE calculated the Central Tendency values for soil and sediment ingestion for both the child and adult future recreational scenario Stanek and Calabrese (1992) reported that about 50% of soil intake for children is from outdoor soil and about 50% is from indoor dust, regardless of the amount of time the children spent outdoors (Stanek and Calabrese, 1992 J Soil Contamination 1(1) 1-28) Therefore, it does not seem appropriate to factor in time spent at a site

Assuming that people would only be outside at the open space site, this would still mean that the central tendency value for children should be 50% of 100 mg/d or 50 mg/d, rather than the 15 mg/day DOE obtained by factoring in the amount of time spent on the site Similarly a more appropriate central tendency value for adults would be 50% of 50 mg/d or 25 mg/d, instead of the 8 mg/d

#### DOE Response to Comment #4

We agree The soil and sediment ingestion rates for the child and adult future recreational scenario will be changed to 50 mg/day and 25 mg/day, respectively This will be reflected in the RFI/RI report Baseline Risk Assessment

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Mr. Martin Hestmark  
U. S. Environmental Protection Agency, Region VIII  
ATTN: Rocky Flats Project Manager, 8HWM-RI  
999 18th Street, Suite 500, 8WM-C  
Denver, Colorado 80202-2405

Mr. Joe Schieffelin, Unit Leader  
Hazardous Waste Control Program  
Colorado Department of Public Health and Environment  
4300 Cherry Creek Drive South  
Denver, Colorado 80222-1530

Gentlemen

The enclosed comment responses are provided in response to the Colorado Department of Public Health and Environment (CDPHE) May 12, 1995 comments on the Addendum to Technical Memorandum No. 2, Human Health Risk Assessment, Exposure Scenarios, Operable Unit 3, April 11, 1995. These responses are the only remaining outstanding issues for Technical Memorandum Number 2 (TM 2). We hoped that you will find them to be satisfactory and that document approval will be forthcoming.

The Environmental Protection Agency (EPA) has not provided comments on the above mentioned document. It is hoped that this is an indication that EPA has no major concerns with TM 2 and that they will provide formal document approval.

On May 8, 1994, CDPHE also provided comments on Technical Memorandum Number 5, Human Health Risk Assessment, Toxicity Assessment, Operable Unit 3, October 10, 1994. Subsequent to the submittal of TM 5, in a letter dated October 12, 1994, the EPA provided clarification to the requirements stated in paragraph VII D 1 c of the Interagency Agreement Statement of Work regarding the submittal of a toxicity assessment technical memorandum. The clarification states that a toxicity assessment technical memorandum is only required when EPA verified toxicity values are not available from the Integrated Risk Information System (IRIS) or the Health Effects Assessment Summary Tables (HEAST). This clarification was provided specifically for Operable Unit 5, however, since Operable Unit (OU) 3 is using HEAST for assessing health effects as stated in TM 5, it is reasonable to assume that the EPA supplied clarification would apply equally to OU 3. Given the above referenced guidance, the Department of Energy, Rocky Flats Field Office (DOE, RFFO) would like to consider TM 5 to be an informational document not requiring agency comment or approval. We feel confident that any concerns or comments the CDPHE may have will be satisfactorily addressed in the OU 3 Baseline Risk Assessment.

We request your response at your earliest convenience. It will be beneficial to all parties to reach resolution on these issues prior to the submittal of the RFI/RI report. Please contact Bob Birk at 966-5921 if you have additional questions or need additional information.

Enclosure  
As Stated



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999 18th STREET - SUITE 500  
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Enclosure 3  
95-RF-06269  
Page 1 of 1

OCT 12 1994

Ref 8HWM-FF

Mr Steve Slaten  
U S Department of Energy  
Rocky Flats Office  
Golden, Colorado 80402-0928

Re. Operable Unit 5 Human  
Health Risk Assessment

Dear Mr. Slaten

The intent of this letter is to clarify the requirements stated in paragraph VII D 1.c of the Interagency Agreement Statement of Work regarding submittal of a toxicity assessment technical memorandum. This memorandum is only required in cases where an EPA verified toxicity value is not available from the Integrated Risk Information System (IRIS) or the Health Effects Assessment Summary Tables (HEAST). If toxicity information for all the Operable Unit 5 (OU 5) contaminants of concern is available from either IRIS or HEAST, no toxicity assessment memorandum is required to meet the conditions of the Interagency Agreement.

We hope this clarification helps to streamline the risk assessment process for OU 5. If there are any questions about the availability of toxicity values, please contact Bonnie Lavelle at (303)294-1067.

Sincerely,

Martin Hestmark, Manager  
Rocky Flats Project

cc: Joe Schieffelin CDPHE  
Ed Mast, EG&G  
Carol Beecher, EG&G

*I asked Bonnie about  
documenting use of  
provisional nos. She  
said we could do it  
with a letter. No profiles  
required. Paul Singh is  
having letter  
prepared from DOE*



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